



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/533,481	05/11/2006	Paul David Foreman	31737-2	4065

26486 7590 07/09/2008
BURNS & LEVINSON, LLP
125 SUMMER STREET
BOSTON, MA 02110

EXAMINER

ORURONGBE, OLATUNDE S

ART UNIT

PAPER NUMBER

1796

MAIL DATE

DELIVERY MODE

07/09/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/533,481

Applicant(s)

FOREMAN ET AL.

Examiner

OLATUNDE S. OJURONGBE

Art Unit

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 20-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 20-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
- 3) ☒ Information Disclosure Statement(s) (PTO/SG/08)
Paper No(s)/Mail Date 20050429
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Objections

1. **Claims 20 and 39** are objected to because of the following informalities:

Claims 20 and 39 fail to identify the unit of measurement for the molecular weight of the siloxane polymer (a) and (b). For the purpose of this office action, the conventional unit g/mol is used.

Appropriate correction is required.

2. **Claim 28** is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Lines 2-3 of claim 20 recites the claim limitation, "(b) a siloxane polymer having a molecular weight of from 10,000 to 100,000" and Lines 1-2 of claim 28 recites the claim limitation, "The composition as claimed in claim 20, wherein component (b) has a viscosity of from 0.65 to 100,000 centistokes"; the viscosity of a siloxane is a measure of the molecular weight of the siloxane, the higher the viscosity, the higher the molecular weight of the siloxane; it is known in the field, as evidenced by Hardman et al (see attachment titled Viscosity and Molecular Weight) that a siloxane with a viscosity of 0.65 centistokes will have a very low molecular weight, too low to get to the 10,000 to 100,000 range of the claim limitation of claim 20, as a siloxane of a viscosity of, for example, 50 centistokes has a molecular weight of 3000.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. **Claims 20- 37** are rejected under 35 U.S.C. 103(a) as being unpatentable over Igarashi et al (US 6,339,124) in view of Lampe (US 4,410,677).

Regarding **claim 20**, Igarashi et al discloses a silicone rubber composition comprising:

(A) 100 parts by weight of an organopolysiloxane containing at least two alkenyl radicals(col.2, lines 22), which are especially vinyl radicals (col.3, line 4), further exemplifying the organopolysiloxane as an organopolysiloxane consisting of dimethylsiloxane units, methylvinylsiloxane units and dimethylsiloxane units and having an average degree of polymerization of about 8,000 (col.5, lines 52-57); the disclosed organopolysiloxane having an average degree of polymerization of about 8,000, has a molecular weight of about 592, 192; this serves as siloxane polymer (a) of the instant claim;

(B) 0.5 to 50 parts by weight of an organopolysiloxane (col.2, line 33) represented by general formula (2) (col.2, lines 33-38), having a degree of polymerization of 1 to 50 (col.3, lines 48-50), further exemplifying the organopolysiloxane as a dimethylpolysiloxane having silanol radicals at both ends (col.5, lines 58-59); this serves as siloxane polymer (b) of the instant claim;

organic peroxide (col.4, line 58), which serves a cross linking agent.

The disclosed parts by weight of the organopolysiloxanes (A) and (B) express a ratio of component (A) to component (B) in the range from 10 to 0.05, to 2 to 1.

Igarashi et al does not disclose the siloxane polymer (B) having a molecular weight from 10,000 to 100,000.

Lampe discloses a silicone rubber composition comprising a silanol terminated diorganopolysiloxane polymer having the viscosity varying from 50,000 to 350,000

Art Unit: 1796

centipoise (col.4, lines 46-50), exemplifying the diorganopolysiloxane as a silanol terminated dimethylpolysiloxane having a viscosity of 10,000 cps (TABLE I, col. 12, lines 61-62).

A diorganopolysiloxane with a viscosity of 10,000 cps has a viscosity of approximately 10,000 centistokes. Using the viscosity/molecular weight conversion equation: $\log \text{viscosity (centistokes)} = 1.00 + 0.0123M^{0.5}$, a siloxane with a viscosity of 10,000 centistokes has a molecular weight of about 59,488.

Lampe further discloses that the composition of the invention has a good shelf life of 18 to 27 months (col.3, lines 40 and 44-45); and that by increasing the viscosity, the molecular weight of the polymer is increased which makes the final silicone elastomer more elastic and thus it has a lower modulus (col.2, lines 65-68). One of ordinary skill in the art would have incorporated the silanol terminated dimethylpolysiloxane of Lampe, as the organopolysiloxane (B), into the invention of Igarashi et al, in order to have a silicone rubber composition with more elasticity and a lower modulus; such incorporation would have amounted to nothing more than the use of a known element in a known environment in order to achieve entirely expected result.

The disclosed silanol terminated dimethylpolysiloxane having a viscosity of 10,000cps of modified Igarashi et al has a molecular weight of approximately 60,000.

Though modified Igarashi et al does not disclose that the silicone rubber composition is for glazing joints, the examiner notes that this is an intended use statement; Statements in the preamble reciting the purpose or intended use of the claimed invention which do not result in a structural difference (or, in the case of process

claims, manipulative difference) between the claimed invention and the prior art do not limit the claim and do not distinguish over the prior art apparatus (or process). See, e.g., *In re Otto*, 312 F.2d 937, 938, 136 USPQ 458, 459 (CCPA 1963); *In re Sinex*, 309 F.2d 488, 492, 135 USPQ 302, 305 (CCPA 1962). If a prior art structure is capable of performing the intended use as recited in the preamble, then it meets the claim. See, e.g., *In re Schreiber*, 128 F.3d 1473, 1477, 44 USPQ2d 1429, 1431 (Fed. Cir. 1997) and cases cited therein, as it has been held that the recitation of a new intended use for an old product does not make a claim to that old product patentable. *In re Schreiber*, 44 USPQ2d 1429 (Fed. Cir. 1997). See also MPEP § 2111.02 and § 2112 - § 2112.02.

Regarding **claim 21**, modified Igarashi et al discloses all the claim limitations as set forth above. The disclosed organopolysiloxane (col.5, lines 52-57) is a polymer containing vinyl groups.

Regarding **claims 22 and 23**, modified Igarashi et al discloses all the claim limitations as set forth above. The disclosed silanol terminated dimethylpolysiloxane (Lampe, TABLE I, col. 12, lines 61-62) does not contain any vinyl groups.

Regarding **claims 24 and 25**, modified Igarashi et al discloses all the claim limitations as set forth above. Though modified Igarashi et al does not disclose the composition wherein component (a) has a specific gravity of from 1.1 gcm⁻³ to 1.2 gcm⁻³

Art Unit: 1796

and/or from s.g 70 to 130, the examiner notes that these are inherent properties of the organopolysiloxane (a); a chemical composition and its properties are inseparable.

Therefore, if the prior art teaches the identical chemical structure, the properties applicant discloses and/or claims are necessarily present. In re Spada, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

Regarding **claims 26 and 27**, modified Igarashi et al discloses all the claim limitations as set forth above. Though modified Igarashi et al does not disclose the composition wherein component (a) has a shore hardness of from 10 to 95 °A or from 40 to 90 °A, the examiner notes that the shore hardness of component (a) is an inherent property of component (a); a chemical composition and its properties are inseparable. Therefore, if the prior art teaches the identical chemical structure, the properties applicant discloses and/or claims are necessarily present. In re Spada, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

Regarding **claim 28**, modified Igarashi et al discloses all the claim limitations as set forth above. The disclosed silanol terminated dimethylpolysiloxane (Lampe, TABLE I, col. 12, lines 61-62) has a viscosity of 10,000 cps, which is about 10,000 centistokes.

Regarding **claim 29**, modified Igarashi et al discloses all the claim limitations as set forth above and further discloses the silanol terminated dimethylpolysiloxane having a

Art Unit: 1796

viscosity of 80,000 cps (Lampe, TABLE III, col.15, lines 18-19); a viscosity of 80,000 cps is approximately 80,000 centistokes for the disclosed polyorganosiloxane.

Regarding **claims 30 and 31**, modified Igarashi et al discloses all the claim limitations as set forth above. The disclosed organic peroxide (col.4, line 58) is a free radical initiator.

Regarding **claim 32**, modified Igarashi et al discloses all the claim limitations as set forth above and further discloses the amount of component (B) being preferably 1 to 10 parts by weight per 100 parts by weight of (A)(col.3, lines 54-55) and an appropriate amount of organic peroxide added to the composition being especially 0.3 to 5 parts by weight of 100 parts by weight of (A) (col.5, lines 3-5), this inherently discloses the percentage by weight of component (A) in the range from 86.9% to 98.7%.

From the disclosure above,
the highest value for the total of components (A), (B) and the organic peroxide is $100 + 10 + 5 = 115$;
the least value for the total of components (A), (B) and the organic peroxide is $100 + 1 + 0.3 = 101.3$;
the weight % of component (A) is from $100/115 \times 100$ to $100/101.3 \times 100 = 86.9\%$ to 98.7%

Regarding **claim 33**, modified Igarashi et al discloses all the claim limitations as set forth above. One of ordinary skill in the art would have used any of the disclosed weight % range of component (A), including 86.9%; 86.9% is about 86%.

Regarding **claim 34**, modified Igarashi et al discloses all the claim limitations as set forth above and further discloses an appropriate amount of component (B) is 0.5 to 50 parts by weight per 100 parts by weight of component (A) (col.3, lines 53-55) and an appropriate amount of organic peroxide added to the composition being especially 0.3 to 5 parts by weight of 100 parts by weight of (A) (col.5, lines 3-5), this inherently discloses the % by weight of component (B) from 0.5% to 33%.

From the disclosure above,

the lowest percentage by weight of component (B) in components (A), (B) and the organic peroxide is $0.5/(100 + 0.5 + 5) \times 100 = 0.5\%$

the highest percentage by weight of component (B) in components (A), (B) and the organic peroxide is

$50/(100+50+0.3) \times 100 = 33\%$

Regarding **claim 35**, modified Igarashi et al discloses all the claim limitations as set forth above and further discloses that the silicone rubber composition with a too large amount of component (B) becomes tacky whereas a silicone rubber composition with too small amount of component (B) is difficult to mill and undergoes substantial plasticity recovery (col.3, lines 55-59); therefore one of ordinary skill in the art would

Art Unit: 1796

have chosen any weight percent of component (B), including about 13%, based on the desired tackiness or/and ease of milling the silicone rubber composition.

Regarding **claim 36**, modified Igarashi et al discloses all the claim limitations as set forth above and further discloses the amount of component (B) being preferably 1 to 10 parts by weight per 100 parts by weight of (A)(col.3, lines 54-55) and an appropriate amount of organic peroxide added to the composition being 0.1 to 10 parts by weight of 100 parts by weight of (A) (col.5, lines 3-5), this inherently discloses the percentage by weight of the organic peroxide from 0.1% to 9.0%.

From the disclosure above,

the lowest percentage by weight of the organic peroxide in components (A), (B) and the organic peroxide is $0.1/(100 + 10 + 0.1) \times 100 = 0.1\%$

the highest percentage by weight of the organic peroxide in components (A), (B) and the organic peroxide is

$10/(100 + 1 + 10) \times 100 = 9.0\%$

Regarding **claim 37**, modified Igarashi et al discloses all the claim limitations as set forth above and further discloses that less amounts of the organic peroxide may achieve insufficient crosslinking whereas larger amounts of the organic peroxide may achieve no further increase of cure rate (col.5, lines 5-8); hence, one of ordinary skill in the art would have chosen any value, including about 5%, from the disclosed range of

Art Unit: 1796

percentage by weight of the organic peroxide of modified Igarashi et al based on the desired cure rate.

7. **Claim 38** is rejected under 35 U.S.C. 103(a) as being unpatentable over Wallis (GB 2322663).

Regarding **claim 38**, Wallis discloses a method of joining a sheet of transparent material (page 8, lines 22-23), the method comprising the steps of:

- Positioning an elongate insert member between the face of a sheet and a further member to which the sheet is to be joined (page 8, lines 27-29), Wallis further discloses that the insert member comprises at least one self adhesive portion capable of adhering to said face of the sheet (page 7, lines 33-35);

- introducing a settable material in contact with said face and said insert member (page 8, lines 31-32), preferably said settable material comprises a silicone material (page 9, lines 17-18).

The combination of the insert material and the settable material of the invention of Wallis serves as the adhesive strip of the instant claim.

8. **Claim 39** is rejected under 35 U.S.C. 103(a) as being unpatentable over Wallis (GB 2322663) in view of Igarashi et al (US 6,339,124) in further view of Lampe et al (US 4,410,677).

Regarding **claim 39**, Wallis discloses all the claim limitations as set forth above.

Wallis does not disclose the adhesive strip comprising the siloxane composition of the instant claim.

Igarashi et al discloses a silicone rubber composition comprising:

- (A) 100 parts by weight of an organopolysiloxane containing at least two alkenyl radicals(col.2, lines 22), which are especially vinyl radicals (col.3, line 4), further exemplifying the organopolysiloxane as an organopolysiloxane consisting of dimethylsiloxane units, methylvinylsiloxane units and dimethylsiloxane units and having an average degree of polymerization of about 8,000 (col.5, lines 52-57); the disclosed organopolysiloxane having an average degree of polymerization of about 8,000, has a molecular weight of about 592, 192; this serves as siloxane polymer (a) of the instant claim;

- (B) 0.5 to 50 parts by weight of an organopolysiloxane (col.2, line 33) represented by general formula (2) (col.2, lines 33-38), having a degree of polymerization of 1 to 50 (col.3, lines 48-50), further exemplifying the organopolysiloxane as a dimethylpolysiloxane having silanol radicals at both ends (col.5, lines 58-59); this serves as siloxane polymer (b) of the instant claim;

- organic peroxide (col.4, line 58), which serves a cross linking agent.

The disclosed parts by weight of the organopolysiloxanes (A) and (B) express a ratio of component (A) to component (B) in the range from 10 to 0.05, to 2 to 1.

Igarashi et al does not disclose the siloxane polymer (B) having a molecular weight from 10,000 to 100,000.

Lampe discloses a silicone rubber composition comprising a silanol terminated diorganopolysiloxane polymer having the viscosity varying from 50,000 to 350,000 centipoise (col.4, lines 46-50), exemplifying the diorganopolysiloxane as a silanol terminated dimethylpolysiloxane having a viscosity of 10,000 cps (TABLE I, col. 12, lines 61-62).

Lampe further discloses that the composition of the invention has a good shelf life of 18 to 27 months (col.3, lines 40 and 44-45); one of ordinary skill in the art would have incorporated the silanol terminated dimethylpolysiloxane of Lampe, as the organopolysiloxane (B), into the invention of Igarashi et al, in order to have a silicone rubber composition with improved elasticity and a lower modulus; such incorporation would have amounted to nothing more than the use of a known element in a known environment in order to achieve entirely expected result.

The disclosed silanol terminated dimethylpolysiloxane having a viscosity of 10,000cps of modified Igarashi et al has a molecular weight of approximately 60,000. Modified Igarashi et al further discloses the uses of silicone rubber to include building gaskets (col.1, line15) and that the silicone rubber composition of the invention has yellowing resistance (col.1, line 6).

It would have been obvious to one of ordinary skill in the art to have used the silicone rubber composition of modified Igarashi et al as the settable material comprised in the adhesive strip of Wallis et al in order to have an adhesive strip with yellowing resistance, thereby preventing yellowing stains on the sheets on which the adhesive strip is used.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to OLATUNDE S. OJURONGBE whose telephone number is (571)270-3876. The examiner can normally be reached on Monday-Thursday, 7.15am-4.45pm, EST time, Alt Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on (571)272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

O.S.O

/Randy Gulakowski/
Supervisory Patent Examiner, Art Unit 1796

